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GNATHODUS PANDER, 1856 (CONODONTA): NOTIFICATION OF A NEW PROPOSAL THAT *POLYGNATHUS BILINEATUS* ROUNDY, 1926 BE THE TYPE SPECIES OF THAT GENUS. Z.N.(S.) 2279

(see vol. 36, pp. 57–62, 201–202; vol. 37, p. 67; vol. 39, pp. 7–13)

By the Secretary, International Commission on Zoological Nomenclature

As will be seen from the above list of references to the *Bulletin*, this case has aroused intense interest and widespread discussion. The basic issue remains: it is whether, in the interests of stability of nomenclature, the plenary powers should be used to designate a Lower Carboniferous species as type species of *Gnathodus* Pander, 1856; or whether Pander's originally monotypic type species, which is agreed to be inadequately figured and described, and of which the type material is lost, should be allowed to stand.

In an effort to provide evidence to help the Commission to reach a clear-cut decision on this case, I asked Professor Walter C. Sweet (*Ohio State University*), President of the Pander Society, to canvass the members of the Society (The Pander Society is the only international society for students of conodonts). In the Society's Newsletter No. 15, issued 16 August 1983, he briefly summarised the problem and then called for answers to the following questions:

'Which, if any, of the following solutions do you favour for the *Gnathodus* problem? If you have a solution that has not been suggested, please describe it in the space at the bottom of the page.

1. Restrict *Gnathodus* to *G. mosquensis* and assign Lower Carboniferous species to *Dryphenotus* (in other words, let the existing Rules apply; the concept of *Gnathodus* would be clarified only if the type specimens of *G. mosquensis* are found).
2. Set aside *G. mosquensis* Pander, 1856, as type species of *Gnathodus* and establish *G. texanus* Roundy, 1926 as type species. (This action would preserve the widely understood concept of *Gnathodus* based on Lower Carboniferous species).
3. Suppress both *Gnathodus* and *Dryphenotus* and set up two new names for the Lower and Upper Carboniferous species-groups they represent.
4. I have a completely different idea what should be done. My idea is as follows.

'By 1 December 1983, 235 members from 30 countries had responded to the general questionnaire and 124 (or 53%) participated in the *Gnathodus* discussion. In the latter group, preference is clearly for solution 2 above (86%), not only among the 61 persons who deal regularly with Carboniferous conodonts (85%), but also within the group of 63 persons who do not (87%).

'From comments submitted with questionnaires, it is obvious that the overwhelming support of Pander Society members for solution 2 above is based primarily on the fact that its implementation by the Commission would provide for stability in nomenclature and concept of a group of species that is important in Lower Carboniferous biostratigraphy, and would also prevent, at some time in the future, a revision of unknown scope in generic-level nomenclature for species commonly used in Upper Carboniferous biostratigraphy should the type specimens of Pander's *Gnathodus mosquensis* ever be located.

'Several members who work regularly with Lower Carboniferous conodont faunas, and who expressed general preference for solution 2, nevertheless questioned the wisdom of establishing *Gnathodus texanus* Roundy, 1926 as type species of *Gnathodus*. Those persons point out that the complete skeletal apparatus of *G. texanus* is unknown (or at least undescribed) and that the species is perhaps the least representative of the group that forms the basis of current concepts of *Gnathodus*. The lack of knowledge of the full skeletal apparatus of *G. texanus* makes it difficult at present to assess its relations to much better-known species such as *G. bilineatus* and *G. girtyi*, for which the complete apparatus is known.

'In summary, the Pander Society, acting as a "Committee of the Whole", expresses clear preference for solution 2 in the above-cited list, which is the proposal submitted to the Commission by Lane & Ziegler (*Bull. zool. Nom.* vol. 37, pp. 57-62), largely on the objective and practical grounds that implementation of that proposal by the Commission will provide nomenclatural stability of nomenclature within a group of conodont species widely used in Carboniferous biostratigraphy.

'In considering the weight of the opinion expressed above, the Commission should be advised that the Pander Society represents some 250 students of conodonts in 30 countries and is the official working group on conodonts of the International Paleontological Association. Furthermore, tabulation of the results of the questionnaire on the "*Gnathodus* question" by country, continent, and area of specialization shows no significant difference, exhibits no geographic or political bias, and indicates to me that those members who were concerned with the question at all considered the alternatives strictly on their merits.' (Professor Sweet to Secretary, 16 December 1983).

Some explanation of the taxonomic considerations underlying the choice of a substitute type species for *Gnathodus* may be in order. From the first discovery of conodonts by Pander in 1856 until 1934, they were known only as isolated single skeletal elements of very diverse tooth-like forms. A large number of genera based on these elements were erected to contain, eventually, over 4,000 species.

From 1934 on there began to be collected specimens in which a number of skeletal elements occurred, apparently in a natural relationship to one another, and in most cases consisting of sets of markedly different elements that had been referred to different single-element genera. For a while these discoveries gave rise to a dual nomenclature in conodonts, but since 1966 a single apparatus-based nomenclature, applying the Law of Priority to single element-based names, has become universal. If, therefore, the Commission's decision in this case is to produce the desired stability of nomenclature, it is clearly desirable that so important a genus as *Gnathodus*, to which some 80, mainly Lower Carboniferous, species have been referred, should be based on a type species whose taxonomic position is secure by present-day criteria. This is not true of *G. texanus* Roundy, 1926, and still less so of *G. mosquensis* Pander, 1856. It is, however, true of *Polygnathus bilineatus* Roundy, 1926, a species now referred to *Gnathodus*.

Dr Ziegler and Dr Lane, the original applicants in this case, have just published in *Senckenbergiana Iethaea*, vol. 65, nos. 1-2, pp. 257-263, 1 pl., 1984, an illustrated account of a complete apparatus of *G. bilineatus* (Roundy) and propose that this, rather than *G. texanus* Roundy, should be designated as the type species of *Gnathodus*.

This entails the following changes to the formal proposals published in *Bull. zool. Nom.* vol. 36, p. 61:

in paragraph 10(1), for *Gnathodus texanus* Roundy, 1926, read *Polygnathus bilineatus* Roundy, 1926;

in paragraph 10(3), for *texanus* Roundy, 1926 as published in the binomen *Gnathodus texanus*, read *bilineatus* Roundy, 1926 as published in the binomen *Polygnathus bilineatus*.

CAECILIIDAE IN AMPHIBIA AND INSECTA (PSOCOPTERA):
REPLY TO SMITH, LANHAM AND POLHEMUS. Z.N.(S.)2333
(see vol. 40, pp. 124-128; vol. 41, pp. 108-109)

By Thomas E. Moore (*University of Michigan, Museum of Zoology, Ann Arbor, Michigan 48109-1079, U.S.A.*)

Ronald A. Nussbaum, Edward L. Mockford and I had considered and rejected the name CAECILIAIDAE because of its inherent difficulty in pronunciation,